IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Baker et al.	Docket No:	39780-2830P1C47
Serial No:	10/015,671	Group Art Unit:	1647
Filed:	December 11, 2001	Examiner:	Rachel B. Kapust

For: **SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC ACIDS ENCODING THE SAME**

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF WILLIAM WOOD, Ph.D. UNDER 37 CFR 1.131

I, William Wood, Ph.D. do hereby declare and say as follows:

1.   I am Director and Staff Scientist at the Department of Bioinformatics, of Genentech, Inc., South San Francisco, CA 94080.

2.   I am one of the inventors of the above-identified application.

3.   I have read and understood the claims pending in this application, and are aware that the claims have been rejected as anticipated by U.S. Patent Publication No. 2003/0096951 (Jacobs *et al.*, publication date May 22, 2003 and effective filing date August 14, 1998).

4.   I, along with other inventors of this application, conceived and reduced to practice the polypeptide designated as PRO1244 (SEQ ID NO:130) claimed in the above-identified application in the United States prior to August 14, 1998.

5.   At the time the PRO1244 polypeptide was cloned and sequenced I was responsible for overseeing the cloning of cDNAs which encoded novel polypeptides, including the cDNA that encoded PRO1244 polypeptide (SEQ ID NO:130) claimed in the above-identified application.

6.   A cDNA clone, referred to as DNA64883-1526 in the above-identified application, was identified as encoding the PRO1244 polypeptide.

7.   The full length of the cDNA clone is shown in Figure 73 of the above-identified application. The full-length cDNA sequence has 2213 nucleotide residues. The full

length of the PRO1244 peptide encoded by DNA64883-1526 is shown in Figure 74 of the above-identified application. The full-length PRO1244 polypeptide has 335 amino acid residues.

8. Copies of the pages from the GSeqEdit database which report the cloning and sequencing data for the PRO1244 polypeptide sequence and its encoding nucleic acid sequence are attached to this declaration (with the dates redacted) as Exhibit A.

9. The GSeqEdit report shows the full-length nucleic acid sequence for DNA-64883-1526 (identified as "DNA-64883") and the full-length PRO1244 polypeptide encoded by DNA 64883. Both the DNA-64883 and the PRO1244 polypeptide sequences were obtained prior to August 14, 1998.

10. The DNA-64883 sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 129 disclosed in the above-identified application.

11. The beginning of the cDNA sequence corresponding to SEQ ID NO: 129 in the above-identified application is shown on page 1 of the GSeqEdit database report and the location of the first nucleotide is marked with "^insert starts here" and an arrow. The location of the last nucleotide corresponding to SEQ ID NO: 129 is shown on page 11 and is marked with an arrow.

12. The amino acid sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 130 disclosed in the above-identified application.

13. The first 26 amino acid residues of the PRO1244 polypeptide (SEQ ID NO:130) encoded by the cDNA (DNA-64883) are also shown on page 1 of the GSeqEdit report and the remaining 309 residues appear on pages 2-6 of the report.

14. Exhibit A clearly shows that both the full-length DNA-64883 sequence and the full-length PRO1244 polypeptide sequence disclosed in the above-identified application were obtained prior to August 14, 1998.

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and

2

the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

William Wood   _6/1·/04_
William Wood   Date
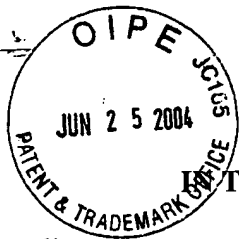
Applicants:	Baker et al.	Docket No:	39780-2830P1C47
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For: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
ACIDS ENCODING THE SAME

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF AUDREY GODDARD, Ph.D. UNDER 37 CFR 1.131

I, Audrey Goddard, Ph.D. do hereby declare and say as follows:
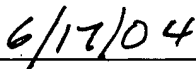
1. I am Senior Clinical Scientist at the Diagnostics, Development Sciences Department of Genentech, Inc., South San Francisco, CA 94080.

2. I am one of the inventors of the above-identified application.

3. I have read and understood the claims pending in this application, and are aware that the claims have been rejected as anticipated by U.S. Patent Publication No. 2003/0096951 (Jacobs et al., publication date May 22, 2003 and effective filing date August 14, 1998).

4. I, along with other inventors of this application, conceived and reduced to practice the polypeptide designated as PRO1244 (SEQ ID NO:130) claimed in the above-identified application in the United States prior to August 14, 1998.

5. At the time the PRO1244 polypeptide was cloned and sequenced I was responsible for overseeing the sequencing of novel polypeptides, including the PRO1244 polypeptide (SEQ ID NO:130) claimed in the above-identified application.

6. A cDNA clone, referred to as DNA64883-1526 in the above-identified application, was identified as encoding the PRO1244 polypeptide.

7. The full length of the cDNA clone is shown in Figure 73 of the above-identified application. The full-length cDNA sequence has 2213 nucleotide residues. The full length of the PRO1244 peptide encoded by DNA64883-1526 is shown in Figure 74 of

-1-

the above-identified application. The full-length PRO1244 polypeptide has 335 amino acid residues.

8. Copies of the pages from the GSeqEdit database which report the cloning and sequencing data for the PRO1244 polypeptide sequence and its encoding nucleic acid sequence are attached to this declaration (with the dates redacted) as Exhibit A.

9. The GSeqEdit report shows the full-length nucleic acid sequence for DNA-64883-1526 (identified as "DNA-64883") and the full-length PRO1244 polypeptide encoded by DNA 64883. Both the DNA-64883 and the PRO1244 polypeptide sequences were obtained prior to August 14, 1998.

10. The DNA-64883 sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 129 disclosed in the above-identified application.

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12. The amino acid sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 130 disclosed in the above-identified application.

13. The first 26 amino acid residues of the PRO1244 polypeptide (SEQ ID NO:130) encoded by the cDNA (DNA-64883) are also shown on page 1 of the GSeqEdit report and the remaining 309 residues appear on pages 2-6 of the report.

14. Exhibit A clearly shows that both the full-length DNA-64883 sequence and the full-length PRO1244 polypeptide sequence disclosed in the above-identified application were obtained prior to August 14, 1998.

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001

2

of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

O. Goddard

Audrey Goddard

_6/17/04_

Date

Exhibit A

to Declarations of Audrey Goddard and William Wood under 37 CFR 1.131

GSeqEdit Database Report

>
>DNA64883 [Full]
>510 Sites [All Sites]
>
>
>
>
>DNA64883 wiw GSeqEdit
>DNA64883 zemin GSeqEdit
>DNA64883 goddarda GSeqEdit
>DNA64883 sheldens GSeqEdit
>HBN64883.seq, sequenced at ABI/ACGT by Peter Ma and Ellson Chen
>human ortholog of implantation-associated protein - Rattus

```
                                                                                                                    dde
                                         nlaIII                                              tseI      fnu4HI/bsoFI
                                         mslI                                                btgI/bstDSI  fnu4HI/bsoFI
                                         styI                                                            bbvI          taiI bsp
                                         ncoI                                                bstXI                      maeII/hpyC
                                         dsaI                                     tseI       bsaJI       hinPI
                                         btgI/bstDSI                                                     hhaI/cfoI      hpy99I mnlI
                                         bstXI                                               tsp45I      haeII
                                         bsaJI
        mnlI                             tsp45I                        bsmAI maeIII
        taqI
        xhoI                    thaI
        tliI                    fnuDII/mvnI
        smlI                    hinPI  aciI
              paeR7I mwoI       tseI bstUI[M.hhaI-]
   tsp509I[M.ecoRI-]           fnu4HI/bsoFI
     ecoRI   avaI[M.taqI-]     bbvI bshl236I
  apoI  mwoI bseRI     nlaIII hhaI/cfoI        bsmAI maeIII

         M   A   A   R   W   R   F   W   C   V   S   V   T   M   V   V   A   L   L   I   V   C   D   V   P   S
   1 CGGAATTCGG CTCCGAGGAGC GAACATGGCA GCGCGTTGGC GGTTTTGGTG TGTCTCTGTG ACCATGGTGG TGGCGCTGCT CATCGTTGGC GACGTTCCCT
     GCCTTAAGCC GAGCTCCTCG CTTGTACCGT CGCGCAACCG CCAAAACCAC ACAGAGACAC TGGTACCACC ACCGCGACGA GTAGCAACG CTGCAAGGGA
   1
                ^insert starts here
                      ^MET
```

GSeqEdit, DNA64883 [Full], page 1

```
    mnlI
  alwNI[dcm-]                                                                          aluI
  alw26I/bsmAI        bsaXI         hpy188I         mspAlI/nspBII    pvuII                      bsmAI

101 CAGCCTCTGC CCAAAGAAAG AAGGAGATGG TGTTATCTGA AAAGGTTAGT CAGCTGATGG AATGGACTAA CAAAAGACCT GTAATAAGAA TGAATGGAGA
    GTCGGAGACG GGTTTCTTTC TTCCTCTACC ACAATAGACT TTTCCAATCA GTCGACTACC TTACCTGATT GTTTTCTGGA CATTATTCTT ACTTACCTCT

27   A  S  A  Q  R  K  K  E  M  V  L  S  E  K  V  S  Q  L  M  E  W  T  N  K  R  P  V  I  R  M  N  G  D


                                                                       bst4CI/hpyCH4III   cac8I
                                                         tspRI         ahdI/eaml105I   cac8I
            hpy99I           tsp509I        nlaIII       btsI          hpyCH4V tspRI      hpyCH4V al

201 CAAGTTCCGT CGCCTTGTGA AAGCCCCACC GAGAAATTAC TCCGTTATCG TCATGTTCAC TGCTCTCCAA CTGCATAGAC AGTGTGTCGT TTGCAAGCAA
    GTTCAAGGCA GCGGAACACT TTCGGGGTGG CTCTTTAATG AGGCAATAGC AGTACAAGTG ACGAGAGGTT GACGTATCTG TCACACAGCA AACGTTCGTT

60   K  F  R  R  L  V  K  A  P  P  R  N  Y  S  V  I  V  M  F  T  A  L  Q  L  H  R  Q  C  V  V  C  K  Q
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                      scrFI[dcm-]
                      pspGI
                      mvaI
                      ecoRII[dcm-]
                      dsaV[dcm-]
                      bstNI
                      bssKI[dcm-]
                      apyI[dcm+]

          sau3AI
          mboI/ndeII[dam-]
          dpnII[dam-]
          dpnI[dam+]
          alwI[dcm-]           scrFI[dcm-]
          bstYI/xhoII          pspGI
          alwNI[dcm-]          mvaI                              nlaIII
          alw26I/bsmAI         ecoRII[dcm-]                      styI
          tsp509I[M.ecoRI-]    dsaV[dcm-]        hpyCH4V         ncoI
          ecoRI pflMI[dcm-]    bstNI baeI        tspRI           dsaI
          apoI bslI[dcm-]      bssKI[dcm-]       bsrI bsmI hphI  btgI/bstDSI
          mboII hpy188III      apyI[dcm+] bpmI/gsuI[dcm-]        bsaJI      hpy18

301 GCTGATGAAG AATTCCAGAT CCTGGCAAAC TCCTCGGCGAT ACTCCAGTGC ATTCACCAAC AGGATATTTT TTGCCATGGT GGATTTTGAT GAAGGCTCTG
    CGACTACTTC TTAAGGTCTA GGACCGTTTG AGGAGCCGCTA TGAGGTCACG TAAGTGGTTG TCCTATAAAA AACGGTACCA CCTAAAACTA CTTCCGAGAC

 93 A     D   E   E   F   Q   I   L   A   N   S   W   R   Y   S   S   A   F   T   N   R   I   F   F   A   M   V   D   F   D   E   G   S   D
```

```
                          tsp509I[M.ecoRI-]
                    ecoRI
                          hpyCH4V
                    sfaNI   apoI            ecoNI
              hpy188I   nlaIII  aluI        bslI    hphI   ndeI   maeIII  aciI
401 ATGTATTTCA GATGCTAAAC ATGAATTCAG CTCCAACTTT CATCAACTTT CCTGCAAAAG GGAAACCCAA ACGGGGTGAT ACATATGAGT TACAGGTGCG
    TACATAAAGT CTACGATTTG TACTTAAGTC GAGGTTGAAA GTAGTTGAAA GGACGTTTTC CCTTTGGGTT TGCCCCACTA TGTATACTCA ATGTCCACGC
127  V  F  Q   M  L  N   M  N  S   A  P  T  F   I  N  F   P  A  K  G   K  P  K   R  G  D   T  Y  E  L   Q  V  R

              ddeI[M.aluI-]
                    bspCNI   mspI    sau3AI                                bsmFI
                    celII/espI  hpaII   mboI/ndeII[dam-]                   sau96I
                    blpI/bpu1102I scrFI[M.hpaII-]                          nlaIV
              aluI    nciI    dpnII[dam-]                          tsp509I  avaII bslI
              pvuII   dsaV    dpnI[dam+]
              mspAlI/nspBII  bssKI  alwI[dam-]            sspI
501 GGGTTTTTCA GCTGAGCAGA TTGCCCGGTG GATCGCCGAC AGAACTGATG TCAATATTAG AGTGATTAGA CCCCCAAATT ATGCTGGTCC CCTTATGTTG
    CCCAAAAAGT CGACTCGTCT AACGGGCCAC CTAGCGGCTG TCTTGACTAC AGTTATAATC TCACTAATCT GGGGGTTTAA TACGACCAGG GGAATACAAC
160  G  F  S   A  E  Q  I   A  R  W   I  A  D   R  T  D  V   N  I  R   V  I  R   P  P  N  Y   A  G  P   L  M  L

                          taqI                              aluI
                          sfuI                              tseI
                          bstBI                             fnu4HI/bsoFI
                          bsiCI             tsp509I  tru9I  fokI   bbvI
                    baeI  mboII mboII       apoI     mseI   bstF5I
                                                            bsrI   mwoI hpyCH4V
601 GGATTGCTTT TGGCTGTTAT TGGTTGGACTT GTGTATCTTC GAAGAAGTAA TATGGAATTT CTCTTTAATA AAACTGGATG GGCTTTTGCA GCTTTGTGTT
    CCTAACGAAA ACCGACAATA ACCACCTGAA CACATAGAAG CTTCTTCATT ATACCTTAAA GAGAAATTAT TTTGACCTAC CCGAAAACGT CGAAACACAA
193  G  L  L  L   A  V  I   G  G  L   V  Y  L  R   R  S  N   M  E  F   L  F  N  K   T  G  W   A  F  A   A  L  C  F
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GSeqEdit, DNA64883 [Full], page 4

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                                                                                                nlaIII
                                                                                          pciI    styI
                                                                                          nspHI   ncoI
                                                    bslI            nspI                          dsaI
                                 sau96I              tfII           aflIII           tsp509I      btgI/bs
             cac8I               avaII               hinfI          bsmFI            bsaJI
      cac8I  ahdI/eam1105I nlaIV mnlI          ndeI
701 TTGTGCTTGC TATGACATCT GGTCAAATGT GGAACCATAT AGAGGACCA CCACACGGGA CATGTGAATT ATATCCATGG
    AACACGAACG ATACTGTAGA CCAGTTTACA CCTTGGTATA TTCTCCTGGT GGTATACGGG GTACACTTAA TATAGGTACC
227 V  L  A   M  T  S   G  Q  M  W   N  H  I   R  G  P  P   Y  A  H   K  N  P   H  T  G   H  V  N  Y   I  H  G

                                                              tseI
                                                              fnu4HI/bsoFI
                                            ddeI              bbvI          hpyI
                                            eco81I            aluI          mnlI
                             tru9I          bsu36I/mstII/sauI
             bsrI   aluI     mseI    maeIII
                           mboII
801 AAGCAGTCAA GCCCAGTTTG TAGCTGAAAC ACACATTGTT CTTCTGTTTA ATGGTGGAGT TACCTTAGGA ATGGTGCTTT TATGTGAAGC TGCTACCTCT
    TTCGTCAGTT CGGGTCAAAC ATCGACTTTG TGTGTAACAA GAAGACAAAT TACCACCTCA ATGGAATCCT TACCACGAAA ATACACTTCG ACGATGGAGA
260 S  S  Q   A  Q  F  V   A  E  T   H  I  V   L  L  F  N   G  G  V   T  L  G   M  V  L  L   C  E  A   A  T  S

                                                                             sau3AI
                                                                             mboI/ndeII[dam
                                                                             dpnII[dam-]
                                                        sfaNI                dpnI[dam+]
                                                        eco57I  fokI         bstYI/xhoII
             nlaIII                                     mboII   bstF5I        bglII          nl
901 GACATGGATA TTGGAAAGCG AAAGATAAATG TGTGTGGCTG GTATTGGACT TGTTGTATTA TTCTTCAGTT GGATGCTCTC TATTTTTAGA TCTAAATATC
    CTGTACCTAT AACCTTTCGC TTTCTATTAC ACACACCGAC CATAACCTGA ACAACATAAT AAGAAGTCAA CCTACGAGAG ATAAAAATCT AGATTTATAG
293 D  M  D  I   G  K  R   K  I  M   C  V  A  G   I  G  L   V  V  L   F  F  S  W   M  L  S   I  F  R   S  K  Y  H
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                                                       bsmFI
                                                       sau96I
                                                       nlaIV          rsaI
                                                       avaII          bpmI/gsuI[dcm-]
                    tru9I        ppuMI                               bsrI   csp6I
          aluI hpy188I  mseI    ecoO109I/draII                 tspRI scaI   tsp509I

1001 ATGGCTACCC ATACAGCTTT CTGATGAGTT AAAAAGGTCC CAGAGATATA TAGACACTGG AGTACTGGAA ATTGAAAAAC GAAAATCGTG TGTGTTTGAA
     TACCGATGGG TATGTCGAAA GACTACTCAA TTTTTCCAGG GTCTCTATAT ATCTGTGACC TCATGACCTT TAACTTTTTG CTTTTAGCAC ACACAAACTT
327   G   Y   P    Y   S   F    L   M   S   O


                                                              tru9I
                                                      mseI    tru9I
                                          ahaIII/draI       tru9I              tru9I
     bsmI                                       swaI  mseI     mseI            mseI
     mboII hpyCH4V        mnlI                             mboII

1101 AAGAAGAATG CAACTTGTAT ATTTGTATT ACCTCTTTTT TTCAAGTGAT TTAAATAGTT AATCATTTAA CCAAAGAAGA TGTGTAGTGC CTTAACAAGC
     TTCTTCTTAC GTTGAACATA TAAAACATAA TGGAGAAAAA AAGTTCACTA AATTTATCAA TTAGTAAATT GGTTTCTTCT ACACATCACG GAATTGTTCG


                  mnlI
                  ddeI
                  bspCNI                                               tsp509I      tru9I
                  mnlI           mnlI tru9I           bsrI             tru9I  rsaI  tsp509I
                  hpy188I        tsp509I  mseI    mboII tspRI          mseI   csp6I mseI
                                                  earI/ksp632I

1201 AATCCCTCGT CAAAATCTGA GGTATTTGAA AATAATTATC CTCTTCCCA GTGAACTTTA TGGAACATTT AATTTAGTAC AATTAAGTAT
     TTAGGAGACA GTTTTAGACT CCATAAACTT TTATTAATAG GAGAATTGGA CACTTGAAAT ACCTTGTAAA TTAAATCATG TTAATTCATA


                                                    tru9I
                                                    mseI
                                                    hpaI
     psiI tsp509I                                   hincII/hindII hpy188I             bslI
          aluI
1301 ATTATAAAAA TTGTAAAACT ACTACTTTGT TTTAGTTAGA ACAAAGCTCA AAACTACTTT AGTTAACTTG GTCATCTGAT TTTATATTGC CTTATCCAAA
     TAATATTTTT AACATTTGA TGATGAAACA AAATCAATCT TGTTTCGAGT TTTGATGAAA TCAATTGAAC CAGTAGACTA AAATATAACG GAATAGGTTT
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GSeqEdit, DNA64883 [Full], page 6

scrFI[dcm-]
pspGI
mvaI
ecoRII[dcm-]
dsaV[dcm-]
bstNI
bssKI[dcm-]
apyI[dcm+]
sexAI

tsp509I[M.ecoRI-]
xmnI
ecoRI   mboII
asp700   aluI   mslI   fokI
apoI   ddeI[M.aluI-]   bstF5I

taiI
hgiAI/aspHI
bsp1286
bsiHKAI   rmaI ddeI
hpy188I   maeII/hpyCH4IV
eco57I   aflIII maeI bspC
mboII   bmyI btrI bfaI mnlI

hpy188III   ndeI   maeIII

hpy188I
mboII
bpuAI
nlaIII bbsI

bstZ17I
bst1107I
accI   sfaNI   tsp509I

1401 GATGGGGAAA GTAAGTCCTG ACCAGGTGTT CCCACATATG CCTGTTACAG ATAACTACAG TAGGAATTCA TTCTTAGCTT CTTCATCTTT GTGTGGATGT
     CTACCCCTTT CATTCAGGAC TGGTCCACAA GGGTGTATAC GGACAATGTC TATTGATGTA ATCCTTAAGT AAGAATCGAA GAAGTAGAAA CACACCTACA

1501 GTATACTTTA CGCATCTTTC CTTTTGAGTA GAGAAATTAT GTGTGTCATG TGGTCTTCTG AAAATGGAAC ACCATTCTTC AGAGCACACG TCTAGCCCTC
     CATATGAAAT GCGTAGAAAG GAAAAACTCAT CTCTTTAATA CACACAGTAC ACCAGAGAAC TTTTACCTTG TGGTAAGAAG TCTCGTGTGC AGATCGGGAG

```
                                              tth111I/aspI
                                              pleI
                                              pflFI
                                              mlyI
                                              hinfI

              bseRI
              mnlI                    bpmI/gsuI[dcm-]
              bseRI          hinPI  ddeI  bspCNI
                             hhaI/cfoI
                                    bsmAI   bsmAI
        bst4CI/hpyCH4III mnlI hpyCH4V

1601 AGCAAGACAG TTGTTTCTCC TCCTCCTTGC ATATTCCTA CTGGCGCTCCA GCCTGAGTGA TAGAGTGAGA CTCTGTCTCA AAAAAAGTA TCTCTAAATA
     TCGTTCTGTC AACAAAGAGG AGGAGGAACG TATAAAGGAT GACGCGAGGT CGGACTCACT ATCTCACTCT GAGACAGAGT TTTTTTTCAT AGAGATTTAT


                                                          tsp45I
                                                          hphI
              tru9I                               tru9I maeIII
              mseI                          tfiI  mseI bstEII
        tsp509I      hpaI              xmnI hinfI  ddeI
        psiI  smlI   hincII/hindII  asp700 hpy188I

1701 CAGGATTATA ATTTCTGCTT GAGTATGGTG TTAACTACCT TGTATTAGA AAGATTTCAG ATTCATTCCA TCTCCTTAGT TTTCTTTTAA GGTGACCCAT
     GTCCTAATAT TAAAGACGAA CTCATACCAC AATTGATGGA ACATAAATCT TTCTAAAGTC TAAGTAAGGT AGAGGAATCA AAAGAAAATT CCACTGGGTA


                                                            dde
                             maeIII              tsp45I    rsaI
           ddeI[M.aluI-]   tspRI    haeIII/palI  maeIII   csp6I
           aluI             nlaIII  tsp509I  maeIII

1801 CTGTGATAAA AATATAGCTT AGTGCTAAAA TCAGTGTAAC TTATACATGG CCTAAAAATGT TTCTACAAAT TAGAGTTTGT CACTTATTCC ATTTGTACCT
     GACACTATTT TTATATCGAA TCACGATTTT AGTCACATTG AATATGTACC GGATTTTACA AAGATGTTA ATCCAAACA GTGAATAAGG TAAACATGA
```

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                                                                          scrFI[dcm-]
                                                                          pspGI
                                                                          mvaI
                                                                          ecoRII[dcm-]
                                                                          dsaV[dcm-]
                                                                          bstNI
                                                                          haeIII/palI
                                                                          mscI/balI[dcm-]
                                                                          eaeI[dcm-]
                                                                          cfrI
                                                                          scrFI[dcm-]
                                                                          pspGI
                                                                          mvaI bssKI[dcm-]
                                                                          ecoRII[dcm-]  tsp45I
                                                                          dsaV[dcm-]   maeIII
                                                                          bstNI  hinPI
                                                                          bssKI[dcm-] tspRI
                                                                          pleI bslI[dcm-] hhaI/cfoI
                                                          ddeI            mlyI bsaJI apyI[dcm+]
                                                          bspCNI          hinfI apyI[dcm+] btsI

                                                                                            bssS
                                                                                            hpy18
                                                                                            sau3AI
                                                         styI cac8I                         mboI/nd
                                                         haeIII/palI                        dpnII[d
                                              ddeI       mnlI bsaJI                          dpnI[da
                                              bspCNI

1901 AAGAGAAAAA TAGGCTCAGT TAGAAAAGGA CTCCCTGGCC AGGGCGCAGTG ACTTACGCCT GTAATCTCAG CACTTTGGGA GGCCAAGGCA GGCAGATCAC
     TTCTCTTTTT ATCCGAGTCA ATCTTTTCCT GAGGGACCGG TCCGCGTCAC TGAATGCGGA CATTAGAGTC GTGAAACCCT CCGGTTCCGT CCGTCTAGTG
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                                                                          scrFI[dcm-]
                                                                          pspGI
                                                                          mvaI
                                                                          ecoRII[dcm-]
                                                                          dsaV[dcm-]
                                                              tspRI        bstNI
                                                     sau3AI   btsI         bssKI[dcm-]
                                                     mboI/ndeII[dam-]      apyI[dcm+]
                                                     dpnII[dam-] hpyCH4V
                                                     dpnI[dam+] bsgI bpmI/gsuI[dcm-]

  mscI/balI[dcm-]
  eaeI[dcm-]
  scrFI[dcm-]
  pspGI
  mvaI
  ecoRII[dcm-]                                                     scrFI[dcm-]
  dsaV[dcm-]                                         alu I         pspGI
  bstNI                                              esp3I                       ecoRII[dcm-]
          bsmAI  bssKI[dcm-]      bsmAI              bsmBI
          taqI  fokI cfrI  nlaIII                   tsp509I        nlaIV
  hpy188III bsaI bstF5I haeIII/palI
  mnlI   hpy188III apyI[dcm+] hphI

2001 GAGGTCAGGA GTTCGAGACC ATCCTGGCCA ACATGGTGAA ACCCCGTCTC TACTAAAAAT ATAAAAATTA GCTGGGTGTG GTGGCAGGAG CCTGTAATCC
     CTCCAGTCCT CAAGCTCTGG TAGGACCGGT TGTACCACTT TGGGGCAGAG ATGATTTTTA TATTTTTAAT CGACCCACAC CACCGTCCTC GGACATTAGG

               ddeI        tfiI      hpy188III
               bspCNI      hinfI     ddeI
          alu I  mnlI mnlI bssSI      bspCNI    mnlI   tspRI
2101 CAGCTACACA GGAGGCTGAG GCACGAGAAT CACTTGAACT CAGGAGATGG AGGTTTCAGT GAGCCGAGAT CACGCCACTG CACTCCAGCC TGGCAACAGA
     GTCGATGTGT CCTCCGACTC CGTGCTCTTA GTGAACTTGA GTCCTCTACC TCCAAAGTCA CTCGGCTCTA GTGCGGTGAC GTGAGGTCGG ACCGTTGTCT
```

fnu4HI/bsoFI
                                              haeIII/palI
                                              mcrI
                                              eagI/xmaIII/eclXI
                                              eaeI
                                              cfrI
              pleI   bsiEI   rmaI
              mlyI   notI   maeI
              hinfI   fnu4HI/bsoFI bfaI
              bsmAI   aciI aciI speI
2201 GCGAGACTCC ATCTCAAAAA AAAAAAAAA AAAAAAAGGG CGGCCGCCGA CTAGTGAGC
     CGCTCTGAGG TAGAGTTTTT TTTTTTTTT TTTTTTTCCC GCCGGCGGCT GATCACTCG

> length: 2269

accI (GTMKAC):   1501
aciI (CCGC):   39 498 2250 2254
aflIII (ACRYGT):   780 1586
ahaIII (TTTAAA):   1150
ahdI (GACNNNNNGTC):   278 714
aluI (AGCT):   152 300 429 510 690 822 888 1015 1345 1476 1816 2070 2102
alw26I (CAGNNNCTG):   101 316
alwI (GGATCNNNN):   318 530
alwNI (CAGNNNCTG):   101 316
apoI (RAATTY):   3 310 423 655 1464
apyI (CCWGG):   321 332 1422 1934 1939 2023 2189
asp700 (GAANNNNNTTC):   1464 1749
aspHI (GWGCWC):   1582

GSeqEdit, DNA64883 [Full], page 11